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(54) Infrared gas analyzer.

(57) An infrared gas analyzer (15), which is adapted to miniaturization, includes a source (36) for emitting infrared radiation along an optical path, a detector (50) positioned in the optical path to detect the radiation and produce a detector output, and a sample chamber (32) positioned in the optical path between the source and the detector for containing a sample gas including the component gas to be detected. The source includes an infrared emitter that is enclosed within a gas-impervious envelope (48) that is void of reactive gases. The source is a conventional incandescent light source that is operated at 50% of rated voltage in a continuous, non-chopped manner, with all of the radiation being directed through the sample chamber. The source is optically coupled directly with the sample chamber in order to avoid the reflection of infrared radiation back toward the source. A control is provided for controlling the source and processing the detector output to a component gas indication. The control processes the detector output continuously to the component gas indication with a response time of less than 250 milliseconds. The control also processes the detector output to a component gas indication independent of any reference signal.

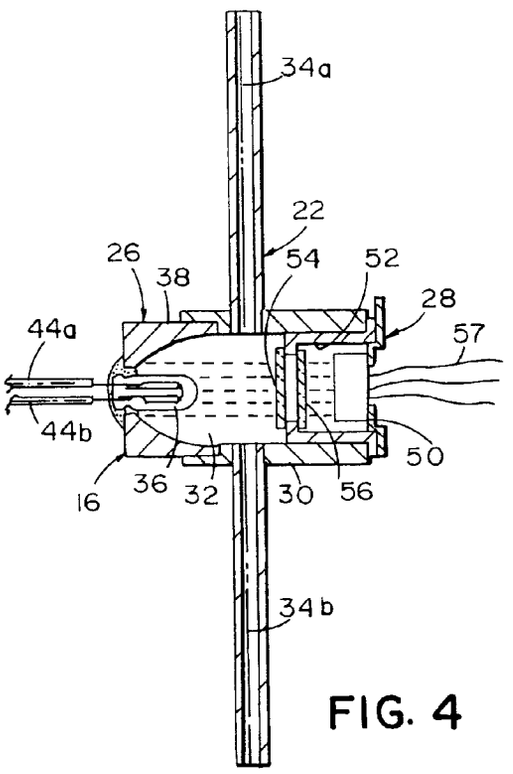

FIG. 4

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EUROPEAN SEARCH REPORT

Application Number
EP 93 30 9170

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.5)
X A	WO-A-86 06638 (BRIGHAM AND WOMENS'S HOSPITAL) * the whole document *	1,2,4,5,9 7,8	G01N21/35 G01N21/61
X	JOURNAL OF PHYSICS E. SCIENTIFIC INSTRUMENTS, vol.4, 1971, BRISTOL GB pages 792 - 793 T.A.JONES ET AL 'A simple infrared gas analyser'	1-3,7,9,10	
A	* the whole document *	4,5,7	
X A	WO-A-86 04411 (CMI, INC.) * page 5 - page 6; figures 1-4 * * abstract *	1-3,5,10 8,9	
X	MEASUREMENT SCIENCE AND TECHNOLOGY, vol.3, no.2, February 1992, BRISTOL GB pages 191 - 195 S.F.JOHNSTON 'Gas monitors employing infrared LEDs' * the whole document *	1-4,7,8,10	
X	ISA PROCEEDINGS, vol.43, 1988, PITTSBURGH US pages 1071 - 1081 R.M.MINDOCK ET AL. 'Miniature NDIR Gas Sensors'	1,2,7,8	
A	* the whole document *	3,10	

TECHNICAL FIELDS SEARCHED (Int.Cl.5)
G01N

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	18 April 1994	Scheu, M

CATEGORY OF CITED DOCUMENTS

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